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Amendment dated June 27, 2004
Reply to non-final Office Action dated Mar 29, 2004



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Technology Center 2600

Listing of the Claims:

1. (Original) A driving circuit for an active matrix electroluminescence device (AMELD) having data and gate drivers that respectively transmit a data signal and a scan signal to each of a plurality of pixel regions, comprising:
 - a latch for latching a control signal; and
 - a plurality of digital to analog converters (DAC) for outputting a reference current of a certain level as a data signal according to R/G/B channels and the control signal.
2. (Currently Amended) The driving circuit for an active matrix electroluminescence device as claimed in claim 1, wherein the digital to analog converters include a reference current output unit for outputting the reference current; and a sink current controller for controlling a level of a sink current according to each R/G/B channel by receiving the reference current from the reference current output unit.
3. (Original) The driving circuit for an active matrix electroluminescence device as claimed in claim 2, wherein an output terminal of the sink current controller is connected to a data line.
4. (Original) The driving circuit for an active matrix electroluminescence device as claimed in claim 2, wherein the reference current output unit temporarily combines a plurality of reference current sources of a plurality of switching devices to output the reference current.
5. (Original) The driving circuit for an active matrix electroluminescence device as claimed in claim 1, wherein the control signal is a digital input signal corresponding to a video analog signal.
6. (Original) The driving circuit for an active matrix electroluminescence device as claimed in claim 4, wherein the reference current sources are temporarily set to any one of binary weight and gamma correction methods.
7. (Original) The driving circuit for an active matrix electroluminescence device as claimed in claim 4, wherein the switching device is a thin film transistor.

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8. (Original) The driving circuit for an active matrix electroluminescence device as claimed in claim 2, the sink current controller of a current mirror type including:

a first voltage terminal;

a second voltage terminal;

a first transistor connected between an output terminal of the reference current output unit and the first voltage terminal; and

a second transistor connected between the second voltage terminal and a data line, the first and second transistors being controlled by the output terminal of the reference current output unit.

9. (Original) The driving circuit for an active matrix electroluminescence device as claimed in claim 8, wherein the first voltage terminal is set at a certain value, and the second voltage terminal controls a level of a sink current according to each R/G/B channel by an externally applied voltage according to each R/G/B channel.

10. (Original) The driving circuit for an active matrix electroluminescence device as claimed in claim 8, further comprising a current breaking switch between the output terminal of the reference current output unit and the first transistor.

11. (Original) The driving circuit for an active matrix electroluminescence device as claimed in claim 2, wherein the sink current controller includes a first voltage terminal;

a fixed resistance;

a first transistor connected to the fixed resistance in series between an output terminal of the reference current output unit and a first voltage terminal; and

a second transistor connected between the first voltage terminal and a data line, the first and second transistors being controlled by the output terminal of the reference current output unit.

12. (Original) The driving circuit for an active matrix electroluminescence device as claimed in claim 11, wherein the fixed resistance is connected between the first voltage terminal and the first transistor, the fixed resistance selected according to a certain reference current for each R/G/B channel.

13. (Original) The driving circuit for an active matrix electroluminescence device as claimed in claim 11, wherein the first voltage terminal is a constant value.

14. (Original) The driving circuit for an active matrix electroluminescence device as claimed in claim 11, further comprising a current breaking switch between the output terminal of the reference current output unit and the first transistor.

15. (Original) The driving circuit for an active matrix electroluminescence device as claimed in claim 2, wherein the sink current controller including a first voltage terminal;

a fixed resistance;

a first transistor connected between an output terminal of the reference current output unit and the first voltage terminal;

and a second transistor connected to the fixed resistance in series between the first voltage terminal and a data line, the first and second transistors being controlled by the output terminal of the reference current output unit.

16. (Original) The driving circuit for an active matrix electroluminescence device as claimed in claim 15, wherein the first voltage terminal is a constant value.

17. (Original) The driving circuit for an active matrix electroluminescence device as claimed in claim 15, wherein the fixed resistance is connected between the first voltage terminal and the second transistor, the fixed resistance selected according to a certain reference current for each R/G/B channel.

18. (Original) The driving circuit for an active matrix electroluminescence device as claimed in claim 15, further comprising a current breaking switch between the output terminal of the reference current output unit and the first transistor.

19. (Original) The driving circuit for an active matrix electroluminescence device as claimed in claim 2, wherein the sink current controller including a first voltage terminal;

first and second transistors;

a third transistor connected with the first transistor in series between an output terminal of the reference current output unit and the first voltage terminal; and

a fourth transistor connected with the second transistor in series between the first voltage terminal and a data line, the third and fourth transistors being controlled by the output terminal of the reference current output unit.

20. (Original) The driving circuit for an active matrix electroluminescence device as claimed in claim 19, wherein gates of the first and second transistors are connected to a bias voltage.

21. (Original) The driving circuit for an active matrix electroluminescence device as claimed in claim 19, wherein the first voltage terminal is an externally applied voltage to control a sink current according to each R/G/B channel.

22. (Original) The driving circuit for an active matrix electroluminescence device as claimed in claim 19, wherein the bias voltage is constantly applied from an external source.

23. (Original) The driving circuit for an active matrix electroluminescence device as claimed in claim 19, further comprising a current breaking switch between the output terminal of the reference current output unit and the first transistor.

24. (Original) The driving circuit for an active matrix electroluminescence device as claimed in claim 2, wherein the sink current controller includes a first voltage terminal;

a first transistor;

a second transistor connected between the first voltage terminal and the output terminal of the reference current output unit; and

a third transistor connected with the first transistor in series between the first voltage terminal and a data line, the second and third transistors being controlled by output value from a drain of the first transistor.

25. (Original) The driving circuit for an active matrix electroluminescence device as claimed in claim 24, wherein a gate of the first transistor is connected to the output terminal of the reference current output unit.

26. (Original) The driving circuit for an active matrix electroluminescence device as claimed in claim 24, wherein the first voltage terminal applies a certain voltage according to each R/G/B channel.

27. (Original) The driving circuit for an active matrix electroluminescence device as claimed in claim 22, further comprising a current breaking switch between the output terminal of the reference current output unit and the first transistor.

28. (Original) The driving circuit for an active matrix electroluminescence device as claimed in claim 2, wherein the sink current controller includes a first voltage terminal;

a variable resistance and a first transistor connected in series between an output terminal of the reference current output unit and the first voltage terminal;

a third transistor connected in series between the data line and the first voltage terminal;

a gate of the third transistor contacted between the variable resistance and the first transistor; and

a second transistor connected in series between the third transistor and the first voltage terminal, gates of the first and second transistors contacting a drain of the third transistor.

29. (Original) The driving circuit for an active matrix electroluminescence device as claimed in claim 28, wherein the first voltage terminal applies a certain voltage according to each R/G/B channel.

30. (Original) The driving circuit for an active matrix electroluminescence device as claimed in claim 28, wherein a fixed resistance having a certain resistance value according to R/G/B channels is connected between the first transistor and the first voltage terminal.

31. (Original) The driving circuit for an active matrix electroluminescence device as claimed in claim 28, wherein a fixed resistance having a certain resistance value according to R/G/B channels is connected between the second transistor and the first voltage terminal.

32. (Original) The driving circuit for an active matrix electroluminescence device as claimed in claim 2, wherein the sink current controller includes a first voltage terminal;

a second voltage terminal;

a variable resistance, a first transistor, and a third transistor connected in series between the output terminal of the reference current output unit and the first voltage terminal;

a second transistor connected in series between the data line and the second voltage terminal;

gates of the first and second transistors connected to a bias voltage; and
a fourth transistor connected in series between the second transistor and the second
voltage terminal;

gates of the third and fourth transistor connected between the variable resistance and the
first transistor.

33. (Original) The driving circuit for an active matrix electroluminescence device as claimed
in claim 32, wherein the bias voltage is constantly applied from an external source.

34. (Original) The driving circuit for an active matrix electroluminescence device as claimed
in claim 32, wherein the first voltage terminal has a certain value and the second voltage
terminal applies a certain voltage from an external source according to R/G/B channels, thereby
controlling a level of sink current according to R/G/B channels.

35. (Original) The driving circuit for an active matrix electroluminescence device as claimed
in claim 2, wherein the sink current controller includes a first voltage terminal;

a variable resistance, a first transistor, and a third transistor connected in series between
an output terminal of the reference current output unit and the first voltage terminal;

a second transistor connected in series between a data line and the first voltage terminal;
gates of the first and second transistors connected to a bias voltage; and

a fourth transistor connected in series between the second transistor and the first voltage
terminal;

gates of the third and fourth transistors connected between the variable resistance and the
first transistor.

36. (Original) The driving circuit for an active matrix electroluminescence device as claimed
in claim 35, wherein a fixed resistance having a certain resistance value according to R/G/B
channels is connected between the third transistor and the first voltage terminal.

37. (Original) The driving circuit for an active matrix electroluminescence device as claimed
in claim 35, wherein a fixed transistor having a certain resistance value according to R/G/B
channels is connected between the fourth transistor and the first voltage terminal.

38. (Original) The driving circuit for an active matrix electroluminescence device as claimed in claim 35, wherein the first voltage terminal applies a certain voltage from a external source to control a sink current according to R/G/B channels.